Sputtered Porous Columnar Coatings for Non-Polymeric Drug Delivery

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Isoflux Incorporated

Isoflux has unique technology and skills for applying *inorganic coatings* to *non-planar shapes* using the physical vapor deposition process of *sputtering*.

This includes:

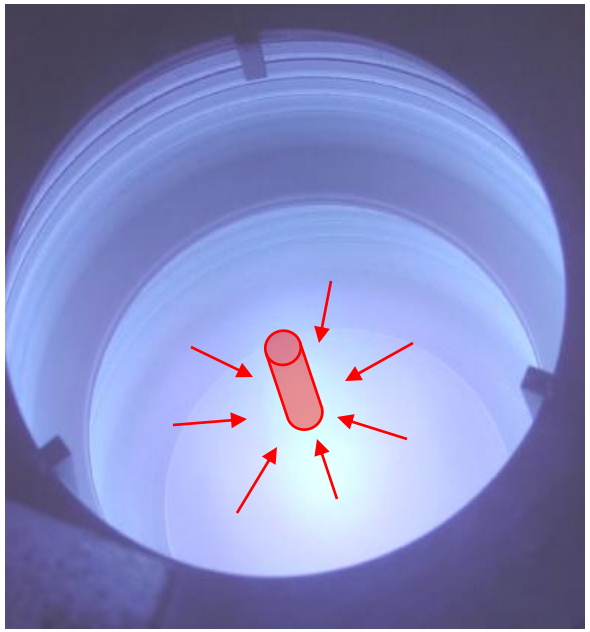
- Proprietary coatings
- Contract process development
- Equipment sales
- Coating services
- Biomedical coatings

Sputtered Nanoporous Coatings for Drug Delivery

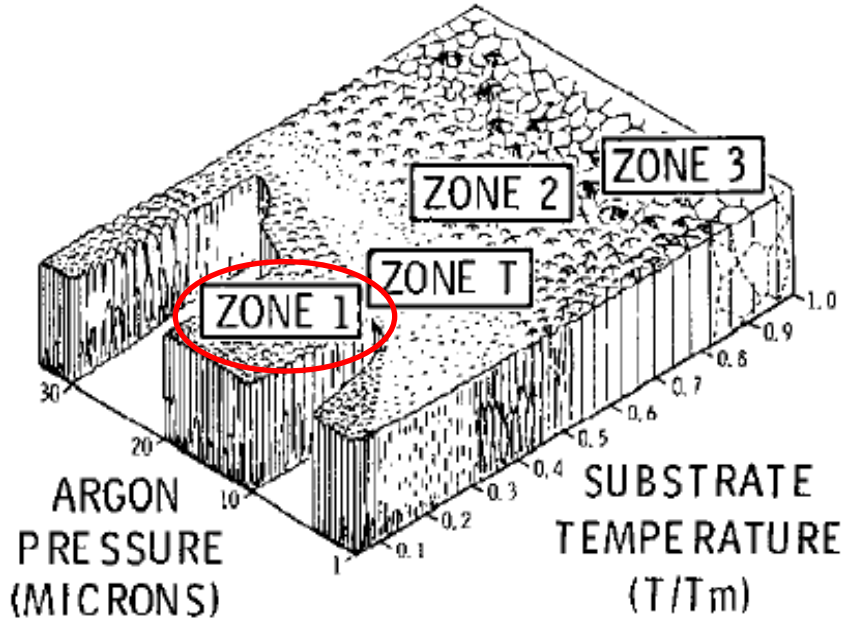
Equipment

Cylindrical Magnetron Cathode

Isoflux
ICM10



Process



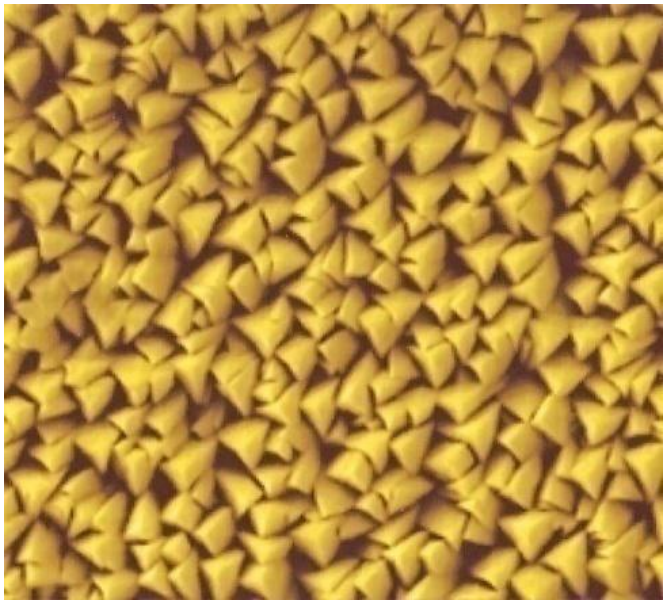
Thornton, High Rate Thick Film Growth, Ann. Rev. Mater. Sci, 1977

- Zone 1 Porous Columnar Structure on Complex 3D Shapes

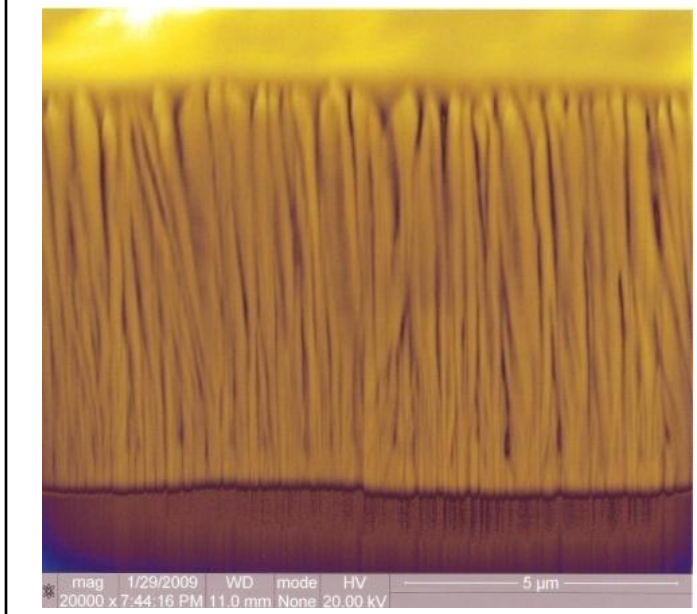
Porous Columnar Features

7.5 μm Thick Ta SPC Coating

Top View



Side View



SPC Coating Advantages

- Excellent adhesion to device
- Non-connected columns do not develop tensile stress
- Open and fully connected pore space allows for easy drug loading
- Protective reservoir prevents drug delamination and high drug load
- High surface area of coating enables long term release
- Radiopacity is enhanced (3D)
- Biocompatible and low corrosion materials